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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933.250	08/20/2001	Shigetoshi Kawabe	KON-1671	5524

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EXAMINER

EASHOO, MARK

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,250

Applicant(s)

KAWABE, SHIGETOSHI

Examiner

Mark Eashoo, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form, because:

The test for a proper dependent claim is whether the dependent claim includes every limitation of the claim from which it depends. (See MPEP § 608.01(n)). In this case, claim 3 recites a range outside, or broader than, that which is claimed by independent claim 1.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the range of claim 3 is outside that of claim 1, from which claim 3 depends, therefore the metes and bounds of the range is unclear and indefinite.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 5 recites that "the adjacent layer solution is a solution diluting the lowermost layer solution". Since claim 1, recites individual layers, and is silent on layer mixing, it is unclear how the adjacent layer can dilute the lowermost layer. However, for the purpose of further examination, this claim has been

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interpreted as follows wherein page 17 of the original specification recites "said lowermost layer A coating solution is diluted adjacent layer B coating solution".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito et al. (US Pat. 5,670,214).

Regarding claim 1: Saito et al. teaches the claimed process of extrusion coating a web-shaped substrate, comprising: conveying a substrate (Fig. 2); supporting the substrate by contact of a first side of the substrate with a back-roll (Fig. 2); simultaneously extruding two layers onto a second side of the substrate, wherein the layers are superimposed (Fig. 2); and a viscosity ratio of $V_b/V_a = 2.0$.

The viscosity ratio in Saito et al. may be determined by the ratio of the lower layer viscosity (V_a) and of the upper layer viscosity (V_b). The values in Table 3 of Saito et al. exhibit a viscosity ratio of $V_b/V_a = 2.0$.

Regarding claims 2 and 4: Saito et al. teaches an upper layer thickness (T_b) of 15 μm and a lower layer of thickness (T_a) of 10 μm (see Table 3), which yields a $T_b/T_a = 1.5$. Therefore the ratio of $\{V_b/V_a\} / \{T_b/T_a\}$ is 1.33 (ie. lower than 7.5).

Regarding claim 5: Saito et al. teaches upper and lower layers using the same solvents and suggests that the lower layer is a pre-coating layer not containing a solid ingredient (ie. infinitely dilute).

Regarding claims 6 and 7: Saito et al. teaches upper layer viscosities of 12 cP or 0.012 Pa-s. (see Table 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US Pat. 5,670,214).

Saito et al. teaches the claimed process of extrusion coating a web-shaped substrate, comprising: conveying a substrate (Fig. 2); supporting the substrate by contact of a first side of the substrate with a back-roll (Fig. 2); simultaneously extruding two layers onto a second side of the substrate, wherein the layers are superimposed (Fig. 2); and a viscosity ratio of $V_b/V_a = 2.0$.

The viscosity ratio in Saito et al. may be determined by the ratio of the lower layer viscosity (V_a) and of the upper layer viscosity (V_b). The values in Table 3 of Saito et al. exhibit a viscosity ratio of $V_b/V_a = 2.0$.

However, Saito et al. does not explicitly teach $2.5 \leq V_b/V_a \leq 30$. However, Saito et al. does suggest that high-speed coating of a thin layer is possible by reducing viscosity (2:50-65) and furthermore the data shown in Table 2 shows a trend that suggests as the viscosity of the lower layer is lowered, while the upper layer viscosity is held constant, then marginal film thickness can be decreased. Saito et al. does not teach or suggest the lower limit of this viscosity which causes coating failure. Therefore, a person having ordinary skill in the art would have found it obvious to have optimized the lower limit of the viscosity of the lower layer through routine experimentation, as commonly practiced in the art, in the process of Saito et al., and would have been motivated to do so in order to produce a desired thin coating layer at high production speeds. Since, Saito et al. directly teaches a viscosity ratio of $V_b/V_a = 2.0$, one of ordinary skill in the art would have expected a reasonable chance of success at least within the lower limits of the range, $2.5 \leq V_b/V_a \leq 30$.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shibata, Upmeier, Tomaru et al., JP 8-168710, and JP 10-290946 all teach the basic state of the art.

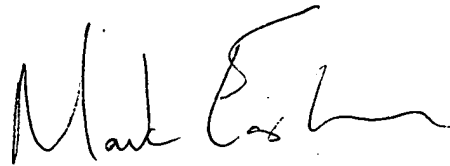
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Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaanni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Mark Eashoo, Ph.D.
Primary Examiner
Art Unit 1732

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